

# Active labor market policy by a profit maximizing firm

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# Active labor market policy by a profit maximizing firm

Ruud Gerards\* , Joan Muysken<sup>§</sup> and Riccardo Welters<sup>¶</sup>

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Working paper

## Abstract

This paper investigates the effectiveness of an employment program exclusively run by and in a private sector firm, in order to find out whether a private program without cream-skimming can be beneficial to (a) the individual private firm and (b) society at large by outperforming public employment programs. To answer these questions, we use a unique dataset on a private employment program covering 27 years of operations and a thousand participating unemployed. Using conservative estimates, we show that a private employment program is more effective at re-integrating the unemployed than public efforts, whilst providing tangible benefits to the involved firm.

JEL codes: H53, J69, J01, I38, M50, M14

Keywords: Active labor market policy, program evaluation, Philips Employment Scheme, cream-skimming, werkgelegenheidsplan, unemployment.

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## 1 Introduction

It is well documented that subsidized private sector employment programs (SPSEPs) in which the government pays firms to provide experience to unemployed workers, seem to perform relatively well in bringing unemployed back to work.<sup>1</sup> This might be the result of both private sector involvement and the potential for cream-skimming, i.e. selecting the most employable unemployed for the program. This paper investigates the effectiveness of a pure private employment program to find out whether a private program without cream-skimming can also be beneficial for both unemployed workers and firms. We investigate this by analyzing the effectiveness of a large Dutch firms' employment program compared to the performance of contemporary public programs, based on a unique data set about 1000 participants covering a period of 27 years. We find that this pure private program performs markedly better than public programs, implying that the private components also in absence of cream-skimming lead to good outcomes.

One of the private components that give SPSEPs an advantage over other forms of Active Labor Market Policy (ALMP), is that SPSEPs more closely resemble a regular work environment and hence facilitate the build up of relevant human capital (Sianesi (2008)). Other advantages of private involvement include participation in a SPSEP works as positive signalling towards future employers (Gerfin et al. (2005)) and similarly it is a very direct way of demonstrating one's abilities to employers (Graversen (2004)). Although these benefits can be ascribed to private sector involvement, these programs are still initiated, designed, administrated and evaluated by the public sector. Several aspects of this program setup create scope for cream-skimming. First, since these programs are mostly evaluated based on their post-program effects, caseworkers have an incentive to select the most employable instead of those who stand to benefit most from it. (Aakvik, Heckman and Vytlačil (2005)). Second, Martin and Swank (2004) show that persuading firms to participate in AMLP entails more than just a wage subsidy and, somewhat related, Martin and Grubb (2001) present results that suggest that firms' participation in these programs is positively linked to the quality of participants they can expect. Thus even if caseworkers were able to identify flawlessly those who would benefit most from participation, they would need to think twice before actually selecting them, as these participants might not satisfy the firms expected quality.

In case of a pure private program there is obviously no need to persuade the firm to participate since it is their own program. Hence the delicate balancing act is no longer required. A pure private program would still enjoy the advantages already mentioned and not suffer from cream-skimming. In addition, it may be attractive for a firm to run a private ALMP for reasons we will investigate.

The remainder of this paper is structured as follows. We elaborate on the program we study in Section 2. In Section 3 we analyze the outflow data of the program and in Section

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<sup>1</sup>See for instance Kluve (2010), Card, Kluve and Weber (2009) for metastudies confirming this or Jaenichen and Stephan (2009), Sianesi (2008), Graversen and Jensen (2006) and Carling and Richardson (2004) for microeconomic evaluation studies confirming this.

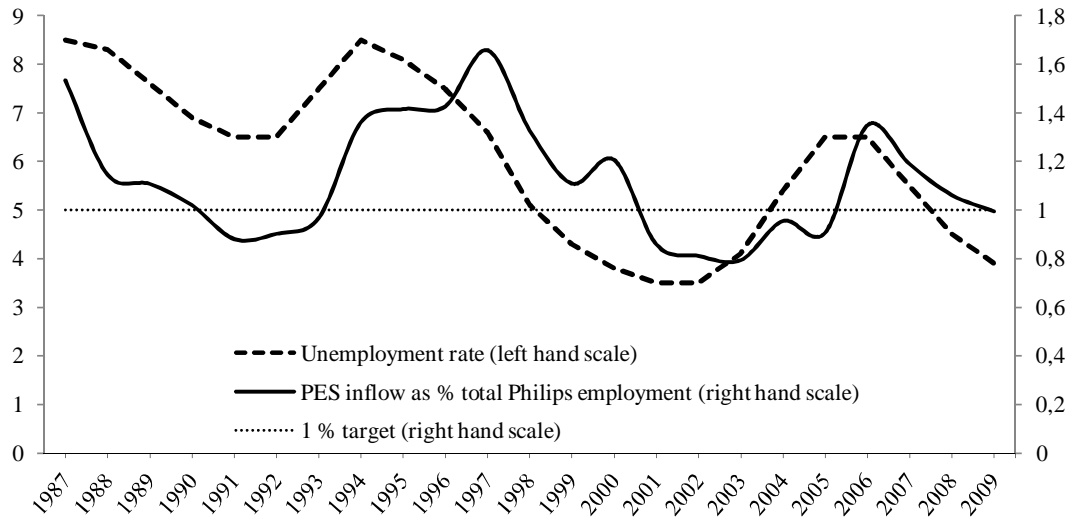
4 we discuss the deadweight loss and relative performance of the program. In Section 5 we present a number of benefits for the firm when running a pure private labor market program. Section 6 concludes.

## 2 A private initiative: The Philips Employment Scheme (WGP)

The unemployment rate in the Netherlands rose dramatically in the early eighties peaking at a record high of 10.2% in 1983 (CPB (2009)). Among the unemployed were a large number of youngsters, below age 23. In 1982 the government and unions agreed on a package of reforms called the Wassenaar agreement. An important element of this agreement was an economy-wide reduction in working hours to split the same amount of work into more jobs. However, Philips Electronics, the Dutch originating multinational known for amongst others its household appliances and lighting products, preferred a different approach to combat unemployment and make its contribution in these times of need. Since it was one of the largest employers in the Netherlands, it was able to implement its own course of action. Instead of reducing working hours, Philips created the ‘Youth Work Plan’ (JWP) which was the predecessor of the WGP. The JWP offered unemployed youngsters one year of work and training with Philips and had 639 participants by the end of 1983 - its inaugural year (van der Bruggen and van Schagen (2001)). The JWP ran successfully until 1986 at which time the number of youth unemployed had declined substantially. According to van der Bruggen and van Schagen (2001) the apparent success of the JWP led unions to embrace it, which in turn led Philips and the unions to incorporate the JWP into the centralized wage agreement. This meant that part of Philips’s wage budget was allocated to the program. At the same time the scope of the program was expanded to include other groups of unemployed; the JWP morphed into WGP. The basic setup however, remained largely unchanged and still entailed one year of full-time employment and training at Philips. Participants receive the legal minimum wage and the training component’s objective is to obtain a vocational qualification and therefore includes a substantial theoretical component.

By design, employment in the WGP is not conflicting with existing (regular) employment at Philips. Moreover, strict monitoring by independent auditors ensures that the target group of disadvantaged unemployed is indeed reached. Each year the HRM department of Philips allocates WGP jobs over the various Philips establishments. The main consideration for this allocation are the future job prospects of participants. Since Philips has plants and offices operating in various industrial sectors and regions throughout the Netherlands, the future job prospects differ per region and subsequently the choice as to which outlets are assigned to open WGP jobs matters (Welters (2005)). Due to this regional and sectoral variation, this allocation process turns out to an interactive process between the central HRM department and local HRM staff. Philips aims at a yearly WGP inflow of one percent of total employment at Philips.

Figure 1 shows the number of participants entering the WGP compared to total Philips employment and related to unemployment. On average Philips attains the one percent tar-

**Figure 1: WGP inflow**

Based on annual data from the WGP yearly reports

get, but the inflow varies substantially over time, which several WGP managers attribute to the difficulty to attract suitable candidates during economic upswings. The figure corroborates this finding since the periods in which the one percent target is not attained feature low unemployment.

The data used to construct the figures in this section originate from WGP annual reports from 1987 to 2008. Table 1 presents summary statistics of the most important variables in this dataset. The most striking feature of the data is the job finding rate of almost

**Table 1: Summary of annual data**

Variable (N=22 years)	Years	Mean	Min	Max
Total employment PhilipsNL	1987-2010	36,202	14,217	70,942
Total inflow	1987-2009	427	143	768
% males in inflow	1988-2009	57.1	38	76
Average age of inflow	1988-2009	31.2	23.5	35.8
Job finding rate 6 weeks after WGP exit	1987-2007	60.7	40	79
Job finding rate 1 year after WGP exit	1995-2007	69.6	50	84

70% measured one year after WGP exit. Thus at first glance the WGP seems to perform admirably, which justifies more subtle and in depth analysis of the performance of the WGP. This performance crucially depends on three stages: selection of the participants, treatment and outflow counseling. In the subsequent section we elaborate on the design of each of these stages.

## 2.1 Selection

To obtain a comprehensive view of the selection and supervision of participants, we conducted interviews with all partners involved. The market for reintegration services is partly

privatized in the Netherlands. Therefore our sample contains a mix of public and private intermediaries. We interviewed six intermediaries; five private sector and one public sector intermediary. Together these six intermediaries provide candidates and counseling for more than sixty percent of all WGP positions. They negotiate the entire spectrum of unemployed persons and as such are key experts to assess whether unemployed candidates that are proposed for the WGP differ in characteristics from other unemployed. In addition they are able to compare the WGP to public ALMPs. Furthermore, interviews have been conducted with Philips internal WGP coordinators who are responsible for (1) the final step of the selection process and (2) the supervision of the candidate. Nine out of ten interviews took place face-to-face, one interview was conducted by telephone.

Four selection criteria apply. First, a candidate must be formally registered as unemployed.<sup>2</sup> The WGP then explicitly targets those unemployed with the largest distance to the labor market, which is the second criterion: that is, long term unemployed, early school leavers, unemployed from ethnic minorities, persons with a disability and higher educated persons with weak ties to the labor market. Third, a candidate should have the potential to successfully complete the practical and theoretical training component that is part of the WGP treatment. Philips cooperates with the public and private intermediaries to find candidates that match these three criteria. It is anticipated that a candidate should possess a certain level of willingness and motivation to participate and this constitutes the fourth criterion, which is tested at the relevant Philips outlet.

From the interviews we concluded that there is no evidence of systematic cream-skimming. If an intermediary would continuously provide candidates that prematurely drop out back into unemployment, Philips might switch to another intermediary to supply them with WGP candidates. On the other hand, if the intermediaries supply only very high quality candidates, these candidates would most likely drop out of the program within a short period of time since they (with their good qualities) would find a job elsewhere with a higher wage than the standard minimum wage that the WGP offers. This would be unwanted since the aim of the WGP is to be a one year treatment that reaches those who benefit most from it.

In addition to our qualitative interview-based evidence, Table 2 provides some quantitative evidence of the (un)employability of participants. Until several years ago, the public employment services assigned the unemployed to degrees of employability, where degree one indicated an easily employable person and degree four a hardly employable person. Table 2 is based on a sample of our data that contains this labeling. The participants in this sample have been positioned throughout different Philips outlets between August 2002 and April 2003. Therefore this sample implicitly includes the efforts of various intermediaries and various Philips floor managers and WGP coordinators. Over ninety percent of participants in this sample are considered to be ‘legitimate’ program participants (degrees, 2, 3 and 4) and almost seventy percent of the participants in this sample are considered tough or virtually impossible to reintegrate as they belong to degrees three and four. Less than

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<sup>2</sup>An exception to this rule was made for three groups: women reentering the labor market, early school leavers and disabled.

**Table 2:** Employability of WGP inflow: a sample of August 2002 - April 2003

Degree	Definition	In WGP sample	%	Cum.
4	Unemployable	10	10.9	10.9
3	Unemployed with such a distance to the labor market that job-finding chances have been reduced significantly	53	57.6	68.5
2	Unemployed who are less easily employable but are able to find a job within a year with support of schooling or subsidy	21	22.8	91.3
1	Unemployed who are easily employable and can find a job without financial support within a reasonable time span	8	8.7	100
Total		92	100	

nine percent of participants are from the most employable segment of unemployed. Taking into consideration that the sample covers a period of rising unemployment (see Figure 1) and hence a growing stock of ‘fresh’ unemployed, the low percentage of degree 1 participants provides further reassurance that no systematic cream-skimming takes place in the selection process.

## 2.2 Treatment and outflow counseling

The treatment in the WGP consists of one year of work experience combined with formal training that leads to a vocational qualification. Since the end of the nineties, half of the WGP participants start with a five month pre-program because their initial qualifications are too low to enter the WGP directly. They would not be able to attain the vocational qualification within the standard WGP timeframe of one year. After this pre-program they enter the WGP proper (van der Bruggen (2004)). Many participants are also not able to complete the entire WGP treatment in one year and are offered a 6-12 month extension. These developments exemplify the large distance to the labor market of many candidates and the determination to target those who need it most.

The type of training that a participant receives depends on the nature of the particular WGP job. Many of the WGP participants still complete the VaPro degree, which is a widely recognized qualification in the Dutch process industry. However, due to changes in the labor market and in the qualifications of participants, there has been an increase in the number of participants that complete a degree in other fields such as administrative, secretarial and ICT skills. The knowledge and skills acquired during the training are brought into practice on the job. Throughout the entire WGP period the participant receives regular supervision, counseling and guidance primarily from within Philips but also from the UWV.

Outflow counseling starts three to six months before the end of the WGP period and is provided by the intermediary that proposed the participant for the program. Specific



counseling activities vary but generally include individual job interview training and personal development training. Six weeks and one year after exiting the WGP participants are interviewed with regard to their WGP experiences. See Appendix I for more information on these data, which cover the 1997-2006 period. One question in the interview is if the former WGP participant is currently employed. The aggregate answer to this question is shown in Figure 2.

**Figure 2:** Aggregate job success of WGP



Based on annual data from the WGP yearly reports and on unemployment data from Statistics Netherlands

On average sixty percent of ex-participants report to be employed when interviewed six weeks after exiting the WGP whereas this increases to seventy percent after one year. On average 15% of participants were employed by Philips after the end of the WGP period, while this figure has varied from 11 to 34 percent.<sup>3</sup> When asked about their general opinion on their WGP period, on average seventy percent of respondents answer ‘satisfied’ or ‘very satisfied’ (on a five point scale).

### 3 Performance of the WGP

In Section 2 we found that on average seventy percent of ex-participants hold a job when interviewed one year after leaving the WGP. In this section we take a closer look at the WGP to investigate what factors influence its job finding rate and the quality of its participants.

#### 3.1 Who get a job after WGP?

To analyze the determinants of the job-finding rate of the WGP participants, we used both aggregate annual data and individual interview data. The estimation results are presented in Table 3. The aggregate model uses the job finding rate (as shown in Figure 2) as dependent

<sup>3</sup>In Section 3 we present estimates showing that young and academically qualified participants are more

**Table 3:** Explaining participants' job finding chances, 1999-2007

Data used	Yearly aggregates		Individual	
Period	1988-2007		1999-2007	
Regression	OLS		Probit	
Dependent variable	Job finding rate		Job finding dummy	
Unemployment at time of inflow	7.00***	(1.99)	0.34***	(0.10)
Unemployment at time of outflow	-9.22***	(1.87)	-0.53***	(0.10)
Age			-0.03***	(0.01)
Gender			0.04	(0.09)
Prior education:				
Average educational attainment <sup>a</sup>	0.10***	(0.02)		
Primary school			-0.06	(0.16)
Low level vocational/secondary			-0.02	(0.10)
Middle level vocational/secondary			reference	
High level vocational			-0.02	(0.12)
University			0.29*	(0.15)
Unemployment status			-0.51***	(0.15)
Unemployment duration:				
0-6 months			reference	
6-12 months			0.04	(0.13)
12-24 months			-0.14	(0.13)
24-48 months			0.15	(0.15)
48+ months			-0.00	(0.16)
If unemployed, what age:				
Age 16-30			reference	
Age 31-40			0.34 **	(0.15)
Age 41-50			0.30	(0.22)
Age 51+			0.26	(0.31)
Constant	-0.25	(0.18)	2.00***	(0.40)
N	20 years		982	
R <sup>2</sup>	0.77			
Durbin-Watson D-statistic	2.16			
Correctly classified by probit model			62.95%	

\*\*\* = significant at 1%, \*\* = significant at 5%, \* = significant at 10%

<sup>a</sup> Average number of years of schooling

Standard errors in parentheses

variable and the individual model uses a job finding dummy. Both models show a positive relation between the job finding rate/dummy and unemployment at time of inflow and a negative relation with unemployment at time of outflow. This second relation suggests that higher unemployment at time of outflow means a lower chance to find a job. This seems logical as more job seekers compete for the same number of jobs. The first relation indicates that participants who enter the WGP when unemployment is high, have a higher chance to find a job after their treatment than participants who enter the program in a low unemployment period. This is consistent with findings from for instance Kluve (2010) and Lechner

likely to be employed by Philips after completing the WGP than others.

and Wunsch (2009). Lechner and Wunsch show that ‘all else equal’ a higher unemployment at time of inflow into (training) programs correlates positively with the programs’ effects.<sup>4</sup> However, even though our individual model corrects for some participant characteristics, we suspect that the positive relation between unemployment at time of inflow and the program success is also driven by unobserved participant characteristics which are more favorable when the pool of unemployed is large. Evidence of this is given in the discussion of Table 5.

With regard to educational background the aggregate model shows that a higher average educational attainment corresponds with a higher average job finding rate, whereas the individual model only shows a slightly higher chance of finding a job for participants with a university degree. The variable ‘Unemployment status’ is a dummy variable that distinguishes participants that entered the WGP without having been formerly registered as unemployed (dummy=0, remember from Section 2.1 that these consist of women reentering the labor force, early school leavers and disabled) from those that had a registered unemployment history (dummy=1). We observe that participants without a registered unemployment history have a higher chance to find a job after the WGP. A possible explanation for this could be that these participants are more intrinsically motivated to get back to work (in the case of women reentering the labor force because they make the deliberate choice to re-enter the labor force) and that they have not suffered from a discouraged worker effect.

Age and gender have no significant impact on the aggregate model or its robustness and were left out. However, the individual model shows that an increase in age has a negative effect on the chances of finding a job. Interacting age-groups with the ‘unemployment status dummy’ shows that participants between age 31 and 40 have a higher chance of finding a job after the WGP than the reference group of 16 to 30 year old’s. Both the duration of unemployment and gender are not significant in the individual model. This suggests the WGP is quite successful, given the intrinsic qualities of the candidates.<sup>5</sup>

### 3.2 A closer look at the inflow of the WGP

To further investigate if higher unemployment leads to better qualified participants we zoom in on the (dynamics of) the inflow quality in the WGP. For these analyses we use information for about 8,900 WGP participants - see Appendix I for details. The only available information is age, education, gender and start year and duration of WGP. In Table 4 we present OLS estimates of the effect of ‘unemployment at time of inflow’, gender and age on the quality of participants.<sup>6</sup> The quality of participants is measured as the ratio of the participant’s years of schooling to the labor force average years of schooling in the year of inflow. We constructed this ratio to correct for possible bias that might arise due to the rising trend in the labor force’s overall education level. The first result we observe is that, the higher the unemployment rate at time of inflow, the higher the educational attainment

<sup>4</sup>One explanation they provide is that in times of high unemployment, non-participants experience fewer job matches or worse matches than when unemployment is low and this reflects negatively on their future prospects, whereas program participants enjoy a stable program situation and do not incur unfavorable matches.

<sup>5</sup>We tested this model on several levels of geographical aggregation for unemployment -i.e. also looking

**Table 4:** Effect of labor market conditions on participants quality, 1987-2006

	Educational attainment <sup>a</sup>
Unemployment at time of inflow	0.04 (0.00)***
Gender:	
Male	reference
Female	-0.04 (0.01)***
Age groups:	
16 - 30 years	reference
31 - 40 years	-0.02 (0.01) **
41 - 50 years	-0.04 (0.01)***
> 50 years	-0.06 (0.03) **
Constant	0.74 (0.02)***
$R^2$	0.06
N	6611

\*\*\* = significant at 1%, \*\* = significant at 5%, \* = significant at 10%

<sup>a</sup> Participant's years of schooling to labor force average years of schooling ratio  
Standard errors in parentheses

of participants entering the WGP. Whether this results from self-selection or selection by UWV/Philips cannot be answered with certainty. Albeit neither gratifying nor original to argue, it's most likely a combination of both. We also find that, relative to participants from the age group of 16 - 30 year, participants from older age groups have a lower educational attainment relative to the labor force average. This is not surprising since recent generations stay in education longer and hence the average educational attainment of the labor force has risen steadily during the last decades. Finally we observe that female WGP participants appear to have a lower educational attainment.

By analyzing the time participants spent in the WGP we can provide an alternative analysis which more clearly shows the business cycle effect on the quality of inflow.<sup>7</sup> A 'bread-and-butter' WGP treatment takes twelve months. Thus when a person takes more than twelve months to complete he or she apparently needs more time to be deemed ready for outflow, and is likely to have been relatively less qualified at time of inflow.<sup>8</sup> Based on this assumption we construct a dummy variable equal to '0' when participants spent at most twelve months in the WGP, and equal to '1' for participants who spent more than twelve months in the WGP.<sup>9</sup> We tested the sensitivity of this dummy to the business cycle and the characteristics of the inflow with a probit model. Table 5 contains the results.

We observe that women are less likely to spend more than twelve months in the WGP and that middle aged participants are more likely to stay longer in the WGP than the youngest

at regional and municipal unemployment. However, the results remain qualitatively the same.

<sup>6</sup>Again we also looked at various levels of geographical aggregation for unemployment and again we found qualitatively the same results.

<sup>7</sup>As presented in Appendix I, our '8900 dataset' contains a variable measuring the time spent in the WGP. This is measured as duration in months.

<sup>8</sup>In Section 2.2 we already mentioned that less qualified participants are regularly offered a 6 or 12 months extension.

<sup>9</sup>Since an extension lasts a fixed 6 or 12 months there is hardly any variation in the duration so we used a dummy variable instead of actual duration in months.

**Table 5:** Effect of business cycle and inflow characteristics on time spent in WGP, 1987-2006

	Duration dummy
Unemployment at time of inflow	-0.20 (0.02) ***
Gender:	
Male	reference
Female	-0.40 (0.05) ***
Age groups:	
Age 16-30	reference
Age 31-40	0.12 (0.05) **
Age 41-50	0.27 (0.07) ***
Age 51+	0.23 (0.15)
Prior education:	
Primary school	reference
Low level vocational	0.08 (0.07)
Low level secondary	-0.10 (0.08)
Middle level vocational	-0.05 (0.07)
Middle level secondary	-0.16 (0.11)
Top level secondary	-0.17 (0.16)
High level vocational	-0.37 (0.10) ***
University	-0.46 (0.12) ***
Constant	0.03 (0.11)
Correctly specified by probit model	91.45%
N	6611

\*\*\* = significant at 1%, \*\* = significant at 5%, \* = significant at 10%

Standard errors in parentheses

participants. Furthermore both high level vocational and university educated participants are less prone to spend more than twelve months in the WGP. The business cycle effect manifests itself as the negative relation between unemployment at time of inflow and the duration dummy. When the labor market is tight and unemployment is low at time of inflow, participants have a higher chance to spend more than twelve months in the WGP and are likely to be less qualified. Thus participants are ‘locked-in’ the WGP longer when unemployment was low at time of inflow. However, our explanation (a person needs more time in the WGP to be qualified enough to successfully exit the WGP) differs from the usual explanation that ‘locking-in’ occurs due to reduced job search efforts on behalf of the participant. Thus even though we correct for several significant participant characteristics we still find that the unemployment rate at time of inflow matters for the duration spent in the WGP. This supports our impression from Table 3 that unobserved participant characteristics vary with the size of the pool of unemployed.

#### 4 Relative performance and deadweight loss of the WGP

We now turn to comparing the performance of the WGP to the performance of contemporary public re-integration efforts.

#### 4.1 Performance of public re-integration efforts

In 2008 a detailed study on re-integration policies was published. This study was commissioned by the Council for Work and Income, an important advisory body to the Dutch government and social partners. This study uses several social security datasets, observing every person that has been unemployed between 1999 and 2005 including details on their treatment. For details we kindly refer to the original study (Groot et al. (2008)). Using a duration model, they were able to measure the effect of public re-integration efforts. In Table 6 we reproduce some of the numbers calculated by Groot et al and we use these to calculate the job finding rate for treated and untreated clients.

**Table 6:** Performance of public re-integration efforts (1999-2005)

	1	2	3	4
	Total exit percentage	Exit to work	Job finding rate (untreated)	Effect of public treatment
Unemp. duration up to 1 year	74%	78%	57.7%	0.9%
1-3 years	15%	63%	9.5%	1.3% <sup>a</sup>
3+ years	10%	29%	2.9%	0% <sup>b</sup>

<sup>a</sup> Effect of treatment if treatment started in 2nd year

<sup>b</sup> Effect of treatment if treatment started later than the 2nd year

Source: Columns 1,2 and 4 from Groot et al. (2008).

Column one shows the percentage of clients that flow out of unemployment within the mentioned duration. Subsequently, column 2 shows what percentage of this outflow is outflow to work. Hence multiplying these first two columns gives the job finding rate within the specified duration for untreated unemployed. Finally, column four reports the treatment effect of public re-integration efforts. Focussing on the first row, we see that persons who become unemployed have a 57.7% chance of finding a job within the first year of unemployment. If a public re-integration treatment is started in this first year, the chance of finding a job within 1.5 years after the start of the treatment increases with 0.9 percentage point. (Groot et al. (2008)). The remainder of the table is read in the same manner and shows that a treatment started in the second year of unemployment is somewhat more effective. Groot et al (2008) conclude from this that in the first year it is apparently hard to select the unemployed that need the treatment most and as a consequence unemployed who would have found a job on their own are treated instead. This cream-skimming results in so called ‘deadweight loss’; some treated unemployed would have found a job even without the help of the treatment. This has two implications. First, the person receiving the unnecessary treatment is locked-into unemployment longer than necessary. Second, these unnecessary treatments take up valuable treatment slots for persons that actually do need the treatment, as capacity for reintegration treatments is limited. Hence, a carefully designed selection process without cream-skimming can, *ceteris paribus*, minimize deadweight loss and help to achieve a high

treatment effect. In section 4.2 we will calculate the deadweight loss of the WGP and use this to compare the WGP to the public treatment.

Groot et al (2008) make another interesting observation which we need to point out for future reference. They find that already after 3 months in unemployment an individual's job finding rate (untreated) starts to decline rapidly. A part of this is a selection-effect, i.e. the unemployed with the best set of characteristics find a job fast and hence the chances to find work for the remaining unemployed population decline. However, they argue that persons becoming unemployed are quite homogeneous in the sense that they all have recent employment history. So initially their distance to the labor market is not that large and thus the observed decline of the job finding rate after three months is likely to be more dominated by a duration-effect than a selection-effect. The longer one is unemployed, the larger the distance to the labor market becomes (Groot et al. (2008)).

#### 4.2 Deadweight loss and relative performance of WGP

We can quantify the deadweight loss of the WGP using the information that we have presented so far. First, we know the job finding rate for untreated unemployed by duration of unemployment from Table 6. Second, we also know how many participants have entered the WGP by unemployment duration (see Appendix I). If we combine these two figures, we can calculate how many of the participants of the WGP would have found a job without WGP treatment while correcting for unemployment duration.<sup>10</sup> This is the deadweight loss of the WGP. In Table 7 we present our calculation.

**Table 7:** Deadweight loss of WGP (1999-2005)

	1	2	3
	Job finding rate untreated	WGP population by duration	Deadweight loss
Duration in WW			
up to 1 year	57.7%	51.7%	29.8%
1-3 years	9.5%	28.7%	2.7%
3+ years	2.9%	19.6%	0.6%
Total WGP DWL			33.1%

Column one shows the job finding rate for untreated unemployed. Column two shows the percentage of WGP participants per category of unemployment duration.<sup>11</sup> In column three we have multiplied the numbers from columns one and two which gives the percentage of WGP participants that would have found a job without treatment, by unemployment duration (thus the deadweight loss per category of unemployment duration). Finally, adding

<sup>10</sup>Since our WGP duration categories distinguish between 12-24 months and 24-48 months we could not directly compare this to the 1-3 years and 3+ years of Groot et al (2008). We chose to split the 24-48 months category in half and thus add 5.85 percent to both 12-24 and 48+ to obtain a comparable number.

<sup>11</sup>For an unbiased comparison we have left out the WGP participants that had no unemployment registration. We only want to observe those participants with a registered unemployment duration and compare these to untreated unemployed of equal unemployment duration. Therefore we have divided the numbers from Table 12 in Appendix I by  $1-0.182=0.818$ .

the numbers in column three gives us the weighted average deadweight loss of the WGP. We find that 33.1% of the WGP participants would have found a job without the WGP. Recall from Table 1 that the average job finding rate of WGP participants is 69.6% when measured one year after exiting the WGP.<sup>12</sup> For the period 1999-2005 this is 61.0% (the same period as covered by the study by Groot et al. (2008)). Thus the (net) treatment effect of the WGP is  $61 - 33.1 = 27.9\%$  for the period 1999-2005. Suffice it to say that this contrasts sharply with the treatment effects of public treatment as reported by Groot et al (2008) and reproduced here in column 4 of Table 6.

Finally, we would like to point out that the WGP deadweight loss we find is in fact a conservative result. From the preceding section we have learned that 57.7% of all unemployed find a job without treatment within the first year of their unemployment spell. At the end of Section 4.1 we already mentioned that after three months in unemployment, the job finding rate starts to decline rapidly. This means that a large portion of the 57.7% already find their job in the first three months and the remainder of the 57.7% is spread over months 4 to 12. But WGP participants that have only spent up to three months in unemployment before entering the WGP are spread thin for two reasons. First, if apparently such a relatively large part of unemployed find a job within the first three months of unemployment, these persons are out of unemployment so fast on their own that they have therewith selected themselves out of the ‘selection pool’ of the WGP. Second, even if they would not have left unemployment so fast, by design the WGP targets predominantly those with the largest distance to the labor market and they would therefore not pass the selection criteria. All this implies that if we would be able to further break down the WGP population and the job finding rates as reported in Table 7, we would expect to find a lower deadweight loss and a higher treatment effect.

## 5 What are the benefits to the firm?

There are a number of possible benefits for the firm running a private employment program. We know from Figure 2 that Philips offers employment to on average fifteen percent of the participants after completing their WGP treatment. Thus the first possible benefit to the firm is that the WGP might serve as a fruitful recruitment channel. Table 8 provides some quantitative evidence that supports this notion. We constructed a subset of participants who found a job after their WGP treatment and added a dummy with value ‘1’ if this was a job with Philips, or a value of ‘0’ for a job elsewhere. This allows us to identify which type of participants Philips favors to offer a regular job. The first result to notice is the negative relation between the chance of getting a job with Philips and unemployment at time of outflow. In a period of low unemployment the costs for recruitment and selection are probably higher for most firms. The negative relation we find here implies that Philips is more likely to hire former WGP participants in ‘costly’ periods of low unemployment. Having to spend less money through formal channels for recruitment is the first benefit the

<sup>12</sup>We use the job finding rate after one year because this aligns best with Groot et al. (2008), who measure their treatment effects by looking at 1.5 years after treatment.



**Table 8:** Who stay with Philips? 1999-2007

	Job with Philips	
Unemployment at time of outflow <sup>a</sup>	-0.17 * *	(0.09)
Gender	-0.03	(0.12)
Prior education:		
Primary school	-0.34	(0.28)
Low level vocational/secondary	0.14	(0.15)
Middle level vocational/secondary	reference	
High level vocational	-0.26	(0.19)
University	0.31*	(0.18)
Age groups:		
Age 16-30	reference	
Age 31-40	-0.25*	(0.14)
Age 41-50	-0.35 * *	(0.17)
Age 51+	0.21	(0.27)
Counseling from UWV	-0.04	(0.07)
Constant	-0.06	(0.28)
N	549	
Correctly classified by probit model	75.96%	

\*\*\* = significant at 1%, \*\* = significant at 5%, \* = significant at 10%

Standard errors in parentheses

<sup>a</sup>On municipal level

program provides. Second, albeit with somewhat weak significance, we find that academically qualified WGP participants have a higher chance to stay with Philips. Third, middle aged participants have a lower chance to become employed by Philips compared to the reference group of 16-30 year old's. This seems logical if you consider their WGP treatment as an investment; the youngest participants have the longest possible return on investment window. Together these three significant results strongly suggest that there is a recruitment and selection benefit from having the WGP.

Another benefit is that running a private program for unemployed fits perfectly in today's era of corporate social responsibility and as such brings the firm some positive externalities. This proposition featured amongst others, in a questionnaire we sent to 69 Human Resource Managers of Philips Netherlands. We asked to what extent corporate social responsibility, the added recruitment channel and improved union relations are perceived as reasons why Philips runs the WGP. The results are summarized in Table 9, which shows that the distribution for all three reasons is left-skewed.

This suggests that the WGP benefits the firm in terms of showing corporate social responsibility, improved unions relations and an added recruitment channel, underscoring the finding from Table 8. Especially in the Netherlands with its culture of centralized wage bargaining, the value of good union relations is vital.

A last benefit of this program is that it is used to dampen productivity losses through the so called 'combi-project'. This means that the participant can temporarily replace a

**Table 9:** Reasons important to run the WGP

	Very unimportant	Unimportant	Neutral	Important	Very important
Corp. social responsibility	0%	0%	3%	27%	70%
Added recruitment channel	6%	18%	18%	48%	9%
Improved union relations	15%	9%	39%	33%	3%
N=33					

regular employee at times when the latter is away for training. This also implies that the work experience the participants gets is as close to regular as can be.

## 6 Conclusion

The paper explored whether a pure private employment program without cream-skimming is beneficial to both unemployed workers and firms. To this end we analyzed the effectiveness of a large Dutch firms' employment program compared to the performance of contemporary public programs. With a conservative calculation we show that a pure private employment program without cream-skimming is more effective at re-integrating the unemployed than public efforts. For the period 1999-2005 we find that the private employment program we study had a treatment effect of almost 28% and a deadweight loss of just over 33%.

Cream-skimming is effectively eliminated by a carefully designed selection process, in which the focus on the unemployed who need the treatment most is securely anchored. Additionally, the treatment itself entails various private components of which the relative effectiveness has already been established in the literature and confirmed by this paper. The most important of these is that the work experience gained during the treatment resembles a regular job as closely as possible which provides a direct way of signalling one's capabilities to future employers.

Interesting from both a business and policymaker's perspective is that running a private employment program also brings benefits to the firm. Evidence presented in section 5 shows that the program serves as a fruitful recruitment channel, contributes to the firm's image of corporate social responsibility, helps improve union relations and can dampen productivity losses that occur when regular staff receives off-the-job training.

## References

- Aakvik, A., J. Heckman, and E. Vytlacil (2005). Estimating treatment effects for discrete outcomes when responses to treatment vary: an application to Norwegian vocational rehabilitation programs. *Journal of Econometrics* 125(1), 15–52.
- Card, D., J. Kluve, and A. Weber (2009). Active Labor Market Policy Evaluations: A Meta-Analysis (March 1, 2009). CESifo Working Paper Series No. 2570; Ruhr Economic Paper No. 86. Available at SSRN: <http://ssrn.com/abstract=1356534>.
- Carling, K. and K. Richardson (2004). The relative efficiency of labor market programs: Swedish experience from the 1990s. *Labour Economics* 11(3), 335–354.
- CPB (2009). *Macroeconomic Outlook 2009*. CPB, The Hague.
- Gerfin, M., M. Lechner, and H. Steiger (2005). Does subsidised temporary employment get the unemployed back to work? Aneconometric analysis of two different schemes. *Labour Economics* 12(6), 807–835.
- Graversen, B. (2004). *Employment effects of active labour market programmes: do the programmes help welfare benefit recipients to find jobs?* Aarhus Universitet, Institut for Økonomi, P.h.D. thesis.
- Graversen, B. and P. Jensen (2006). A Reappraisal of the Virtues of Private Sector Employment Programmes (July 2006). IZA Discussion Paper No. 2230. Available at SSRN: <http://ssrn.com/abstract=923527>.
- Groot, I., M. Graaf-Zijl, J. Hop, L. Kok, B. Fermin, D. Ooms, and W. Zwinkels (2008). *De lange weg naar werk: beleid voor langdurig uitkeringsgerechtigden in de WW en de WWB*. Den Haag/Amsterdam/Hoofddorp: RWI/SEO Economisch Onderzoek/TNO.
- Jaenichen, U. and G. Stephan (2009). The effectiveness of targeted wage subsidies for hard-to-place workers. *Applied Economics* (0003-6846).
- Kluve, J. (2010). The effectiveness of European active labor market programs. *Labour Economics (In Press, Corrected Proof)*.
- Lechner, M. and C. Wunsch (2009). Are training programs more effective when unemployment is high? *Journal of Labor Economics* 27(4).
- Martin, C. and D. Swank (2004). Does the organization of capital matter? Employers and active labor market policy at the national and firm levels. *American Political Science Review* 98(04), 593–611.
- Martin, J. and D. Grubb (2001). What Works and for Whom: A Review of OECD Countries' experiences with active labour market policies. *Swedish Economic Policy Review* 8(2), 9–56.
- Nelis, J., Y. van den Berg, P. van Mill, A. Swart, and F. Visser (2004). *Annual Report Philips Employment Scheme 2003*. Philips Human Resources Nederland.
- Philips-Personeelszaken (1986-1990). *Rapportage werkgeleghedsplan*. Philips Personeelszaken.
- Sianesi, B. (2008). Differential effects of active labour market programs for the unemployed.

- Labour economics* 15(3), 370–399.
- van den Berg, Y. (2005-2008). *Annual Report Philips Employment Scheme*. Philips Human Resources Nederland.
- van der Bruggen, T. (1991-2003). *Rapportage werkgelegenheidsplan / Annual report*. Philips Personeelszaken.
- van der Bruggen, T. (2004). *De lange weg naar Den Haag*. Ton van der Bruggen.
- van der Bruggen, T. and J. van Schagen (2001). *Met het oog op de arbeidsmarkt: ervaringen met het Philips werkgelegenheidsplan*. Philips Electronics Nederland.
- Welters, R. (2005). *Efficiency of Employment Subsidies and Firms' Recruitment Strategies*. Welters, Maastricht, P.h.D. thesis.

## Appendix I: Data on individuals in the WGP

In our analysis we have used two datasets on individuals. On the one hand data on 8928 individual participants of the WGP. This dataset was originally extracted from Philips' administrative systems and is the most integral collection of WGP participants available, containing 75 percent of all WGP participants ever. On the other hand we obtained data on 1042 former WGP participants interviewed six weeks after the end of their WGP treatment in the period 1997-2007. Both datasets are described briefly below.

### '8900 dataset'

This large sample size comes with a trade-off since the information we have per participant is limited to a number of 'bread and butter' variables. Table 10 summarizes the most important variables in this dataset. Looking at the various statistics in the table, especially

**Table 10:** Summary of main variables '8900 dataset'.

Variable (N=8928)	N	Mean	Std. Dev.	Min	Max
Startyear WGP treatment	8928			1983	2009
Endyear WGP treatment	8712			1983	2009
Duration WGP treatment (months)	8712	10.0	4.5	0	24
Age	8928	28.5	8.2	16	60
Level of prior education (years of school)	7150	10.3	2.9	6	16
	N	Male	Female		
Gender	8928	5187	3741		
Residential address	8928				

the means and standard deviations, we can state that the WGP inflow is quite heterogeneous. Moreover, although this was never recorded accurately enough to be used as a variable, we know from working with the data and from qualitative sources that there is also a large variation in ethnicity of participants. The level of prior education was originally defined in eight categories specific to the Dutch education system. Table 11 provides the number of WGP participants from each educational background. For later analysis we translated these categories into 'years of school' as shown in the last column.

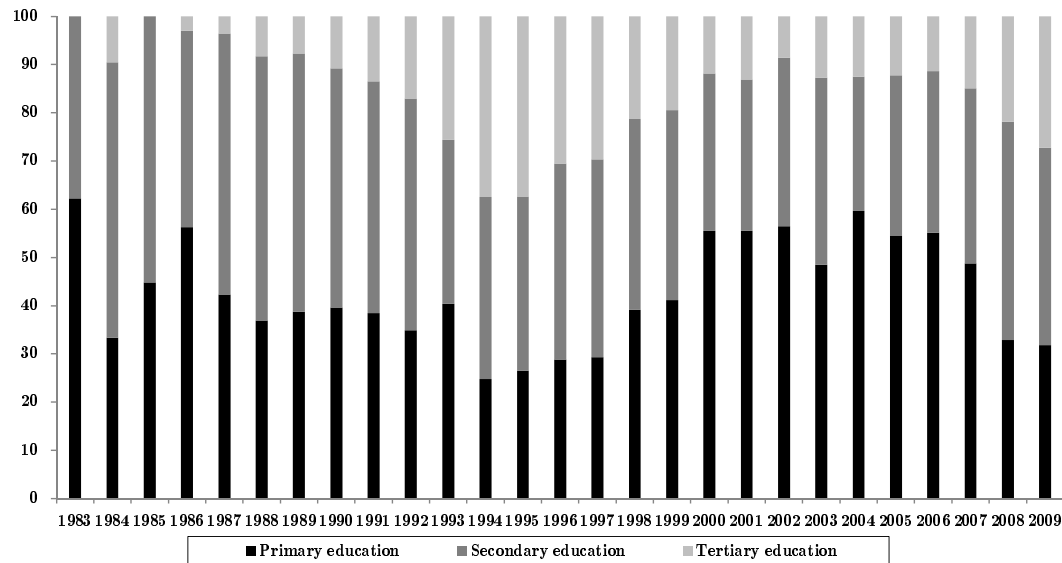
**Table 11:** Prior education level of WGP participants.

Prior education		N	%	Years of school
LO (Primary school)	} LO + LBO: Primary	1280	17.9	6
LBO (Low level vocational)		1581	22.1	9
MAVO (low level secondary)	} MAVO - VWO: Secondary	1022	14.3	10
MBO (middle level vocational)		1302	18.2	10.5
HAVO (middle level secondary)		466	6.5	11
VWO (top level secondary)		183	2.6	12
HBO (high level vocational)	} HBO + WO: Tertiary	813	11.4	15
WO (university)		503	7.0	16

In addition, Figure 3 shows the education level of the WGP inflow over time rescaled

to a standard three category scale. Especially the nineties were characterized by a marked increase in participants with tertiary education. Facing 7,000 high skilled unemployed in the area of South-east Brabant (where Philips has its origins and many of its plants and offices), Philips and the local UWV-predecessor agreed to target this group with the WGP. As a consequence in 1994 and 1995 the inflow of high skilled unemployed peaks and remains high throughout the second half of the decade.<sup>13</sup>

**Figure 3:** Education level of WGP inflow over time



Based on data from our ‘8900 dataset’

### ‘Interview dataset’

The most detailed information on individuals who have participated in the WGP comes from ‘Interview dataset’. This dataset stems from Philips databases in which the answers to the aforementioned interviews were recorded. It contains the answers of 1042 former WGP participants interviewed six weeks after the end of their WGP treatment. Table 12 summarizes the main variables.

The substantial variations in age, prior education and unemployment duration confirm the heterogeneity of participants observed in Table 10. In addition to the variables reported in the table, the ‘Interview dataset’ contains data on participant satisfaction with the WGP treatment and answers to questions that enquire about the intensity of supervision participants received from both Philips as well as the Labor Office.

In Appendix III we show that the ‘Interview dataset’ can be considered a representative sample of the large ‘8900 dataset’ as it displays very similar movements in gender and age composition of participants. Due to differences in how prior education was defined in both datasets, we could not construct a reasonable comparison of this characteristic (even

<sup>13</sup>Comparing Figures 2 and 3 we also see an all-time peak in former WGP participants being employed by Philips in the same period. This already hints at a possible relation between a high skill level at entry and chances of being employed by Philips, as we will formally show in Section 3.

**Table 12:** Summary of main variables ‘Interview dataset’.

Variable (N=1038)	N	Mean	Std. Dev.	Min	Max		
Startyear WGP	1038			1997	2006		
Endyear WGP	1038			1999	2007		
Age	1038	35.2	9.6	17	58		
Prior education (years of school)	1012	11.6	2.8	6	16		
	N	n.r.	< 6m	6-12m	12-24m	24-48m	> 48m
Unemployment before WGP	1025	18.2%	21.7%	20.6%	17.6%	11.7%	10.2%
		Yes	Yes	Yes	No	No	
	N	Philips	Elsewhere	Temp	Study	No	
Job after WGP	1022	13.6%	20.6%	21.8%	3.0%	41.0%	
	N	Male	Female				
Gender	1038	55.6%	44.4%				
WGP location/Philips outlet <sup>a</sup>	1035						

though we managed to translate them both into ‘years of education’). In the ‘8900 dataset’, prior education was classified in 8 levels whereas the classification in the ‘Interview dataset’ contained only 5 levels. Especially the lower education levels were more compressed into aggregates in the ‘Interview dataset’, leading to less accuracy there.

For our analysis we combined all datasets with longitudinal unemployment measures from Statistics Netherlands, the rate of unemployment and the number of individuals receiving unemployment benefits, both on several levels of regional aggregation from municipality to COROP (a regional classification especially suited for labor market analysis) to province.

## Appendix II: Regional analysis

**Table 13:** Effect of labor market conditions on participants quality, 1995-2006

Dependent variable	Educational attainment <sup>a</sup>			
Estimation number	1	2	3	4
Unemployment:				
National	0.08 (0.00)***			
Province		0.07 (0.00)***		
Corop			0.06 (0.00)***	
Municipality				0.05 (0.00)***
Gender:				
Male	reference	reference	reference	reference
Female	-0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Age cohorts:				
16 - 30 years	reference	reference	reference	reference
31 - 40 years	-0.03 (0.01)***	-0.03 (0.01)***	-0.04 (0.01)***	-0.04 (0.01)***
41 - 50 years	-0.05 (0.01)***	-0.05 (0.01)***	-0.06 (0.01)***	-0.06 (0.03)***
> 50 years	-0.04 (0.03)	-0.05 (0.03)*	-0.06 (0.03)**	-0.07 (0.03)**
Constant	0.73 (0.02)***	0.75 (0.02)***	0.79 (0.01)***	0.81 (0.02)***
Adj. $R^2$	0.08	0.08	0.05	0.05
N	4139	4136	4136	4032

\*\*\* = significant at 1%, \*\* = significant at 5%, \* = significant at 10%

<sup>a</sup> Participant’s years of schooling to labor force average years of schooling ratio

Standard errors in parentheses

For Tables 13 and 14 we used the number of unemployment benefit claimants as unemployment measure. This variable is available for all geographical levels. In Table 4 we used a different unemployment measure (the unemployment rate), which is available for more years but not for all geographical levels. Both measures show the same pattern and trend.



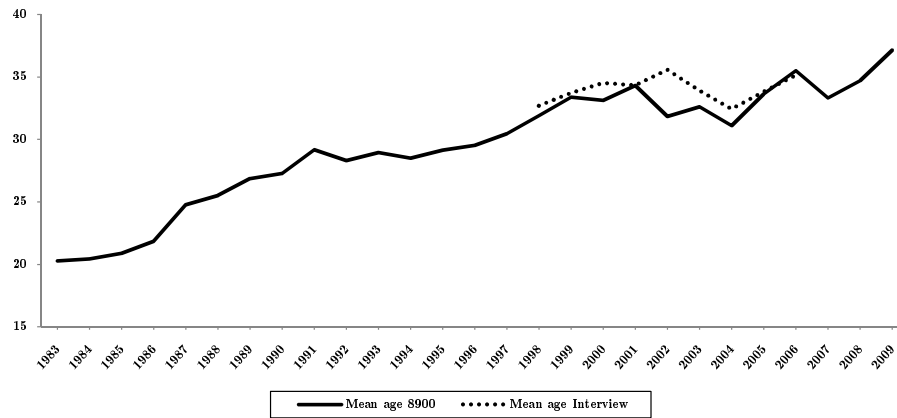
**Table 14:** Explaining participants' job finding chances, 1995-2006

	Job finding dummy			
Unemployment at time of outflow:				
National	-0.54*** (0.10)			
Province		-0.46*** (0.08)		
Corop			-0.44*** (0.09)	
Municipality				-0.36*** (0.07)
Unemployment at time of inflow:				
National	0.36*** (0.10)			
Province		0.30*** (0.08)		
Corop			0.29*** (0.09)	
Municipality				0.24*** (0.07)
Age	-0.03*** (0.01)	-0.03*** (0.01)	-0.03*** (0.01)	-0.03*** (0.01)
Gender	0.04 (0.09)	0.04 (0.09)	0.03 (0.09)	0.05 (0.09)
Prior education:				
Primary school	-0.09 (0.16)	-0.08 (0.16)	-0.08 (0.16)	-0.11 (0.16)
Low level vocational/secondary	-0.04 (0.10)	-0.03 (0.10)	-0.03 (0.10)	-0.04 (0.10)
Middle level vocational/secondary			reference	
High level vocational	-0.01 (0.13)	-0.01 (0.13)	-0.01 (0.13)	-0.00 (0.12)
University	0.29* (0.15)	0.28* (0.15)	0.27* (0.15)	0.29* (0.15)
Unemployment status	-0.51*** (0.16)	-0.51*** (0.16)	-0.50*** (0.16)	-0.49*** (0.16)
Unemployment duration:				
0-6 months			reference	
6-12 months	0.03 (0.13)	0.03 (0.13)	0.04 (0.13)	0.05 (0.13)
12-24 months	-0.11 (0.14)	-0.11 (0.14)	-0.10 (0.14)	-0.08 (0.13)
24-48 months	0.17 (0.15)	0.17 (0.15)	0.18 (0.15)	0.19 (0.15)
48+ months	0.04 (0.16)	0.05 (0.16)	0.06 (0.16)	0.07 (0.16)
If unemployed, what age:				
Age 16-30			reference	
Age 31-40	0.35 ** (0.15)	0.35 ** (0.15)	0.35 ** (0.15)	0.34 ** (0.15)
Age 41-50	0.31 (0.22)	0.32 (0.22)	0.30 (0.22)	0.30 (0.22)
Age 51+	0.30 (0.31)	0.29 (0.31)	0.28 (0.31)	0.29 (0.31)
Counseling from UWV	-0.08 (0.05)	-0.07 (0.05)	-0.06 (0.05)	-0.07 (0.05)
Constant	2.12*** (0.40)	2.07*** (0.39)	2.04*** (0.38)	1.96*** (0.38)
N	982.00	982.00	982.00	982.00

\*\*\* = significant at 1%, \*\* = significant at 5%, \* = significant at 10%  
Standard errors in parentheses

### Appendix III: Representativeness of ‘Interview’ dataset

**Figure 4:** Mean age of participants by year and dataset



**Figure 5:** Number of participants (N) by year and dataset

